

d.) Remarks.

Claims 23, 42, 44, 47, 52-54, 76, 93, 95, 98 and 100-103 amended. Support for these amendments can be found throughout the specification and also in the existing claims. No new matter or new issued are raised with these amendment. Accordingly, claims 23-49 and 52-54 and 76-103 are pending with claims 55-75 having been withdrawn.

Remarks Regarding 35 U.S.C. § 112, Second Paragraph.

Claims 53, 54, 102 and 103 stand rejected, under 35 U.S.C. § 112, second paragraph, as alleged indefinite. Applicant respectfully traverses this rejection and all comments made in the Office Action.

In the Office Action, the phrase “less than about” is objected to as allegedly indefinite. Although applicant respectfully disagrees, solely to expedite prosecution, this phrase has been deleted and replaced with the words “or less”.

Thus, the rejection of claims 53, 54, 102 and 103, under 35 U.S.C. § 112, second paragraph, is overcome or moot and applicant respectfully requests that it be withdrawn.

Remarks Regarding 35 U.S.C. § 102(e).

Claims 23-49, 52-54 and 76-103 stand rejected, under 35 U.S.C. § 102(e), as allegedly anticipated by U.S. Patent No. 6,683,783 to Smalley et al. (the “Smalley patent”). Applicant respectfully traverses the rejection and all comments made in the Office Action, but responds to selected comments therein as follows.

In the Office Action, it is alleged that Smalley discloses applicant’s claimed invention. Applicant respectfully disagrees.

It is alleged that Smalley, somewhere at column 37 discloses nanotubes that “are aligned in parallel (col. 37)” (Office Action, page 4, first paragraph). Applicant has reviewed column 37 of Smalley and can find no such disclosure.

It is also alleged that Smalley discloses that “composites are utilized in the composition such as sonar dome, which require EMI shielding property, antennas, air frame of a plane (col. 40, lines 60-63)” (Office Action, page 4, second paragraph). The allegation that sonar domes may require EMI shielding does not anticipate applicant’s claimed invention. Such domes may or may not require EMI shielding, but any such shielding would be added. Smalley does not disclose that carbon nanotube containing composites can actually provide the EMI shielding.

It is next alleged in the Office Action that “one of ordinary skill in the art would also inherently know that in order to form articles mentioned by the disclosure of Smalley, use of equipment such as extruders and injection molding machine is required” (Office Action, second paragraph). Applicant does not understand what conclusion the examiner is drawing with this statement. If the examiner is alleging that EMI shielding is created by utilizing extruders and injection molding machines, applicant respectfully disagrees. Utilizing the disclosures of the instant specification, EMI shielding can be obtained for objects made from extruders and injection molding machines, but such are not required, nor do they necessarily produce EMI shielded composites when such composites contain carbon nanotubes.

Lastly, it is alleged in the Office Action that:

“Since the composite of the prior art of Smalley encompasses the composites of the present invention, the properties that result from making of the composite, such as absorption wavelength, radiation transmittance or radiation reflectance are viewed as inherent.” (Office Action, page 4, fourth paragraph).

Applicant respectfully disagrees. None of the properties noted by the examiner, namely, absorption wavelength, radiation transmittance or radiation reflectance, are inherent properties of the carbon nanotube containing composites of Smalley. Inherency requires that “... a structure in the prior art necessarily function in accordance with the limitations of a process or method claim” (In re King, 801 F.2d 1324; 231 USPQ 136 (Fed. Cir. 1986) (emphasis added)). Applicant respectfully submits that simply because a composite contains carbon nanotubes, does not “necessarily” mean that the composite will possess the property of

EMI shielding. Furthermore, the examiner provided no materials which show that such would be the case. Therefore, it is unclear exactly how this conclusion was drawn.

No where in Smalley is electromagnetic shielding disclosed, discussed or even suggested. Further, electromagnetic shielding is not a "necessary function" of carbon nanotube containing composites. Accordingly, the rejection of claims 23-49, 52-54 and 76-103, under 35 U.S.C. § 102(e), is moot or overcome and applicant respectfully requests that it be withdrawn.

Summary of Substance of Interview

Applicant and the undersigned thank Examiner Wyrozebski for the courtesy of the interview held in her office on November 12, 2004. During the interview, a discussion was conducted between the Examiner, the undersigned and the inventor, Mr. Paul Glatkowski, regarding the technology as it relates to the Smalley Patent. Specifically, all carefully reviewed the Smalley patent and especially columns 6, 18, 26, 38, 39 and 40. It is believed to be agreed that Smalley does not disclose or suggest EMI shielding by nanotubes as claimed by applicant.

Applicant agreed to amend certain claims to make it clear that the claimed invention is directed to shielded composites and providing shielding through the incorporation or use of nanotubes. Accordingly, claims 42, 44, 52, 93, 95, 98, 100 and 101 have been so amended.

Examiner Wyrozebski requested an explanation as to why certain nanotube products had shielding properties, while others did not. Applicant respectfully asserts that various combinations of properties of the nanotubes contribute to its shielding capability. In an effort to address this concern, applicant has amended claim 23 to specifically recite that the nanotubes have an aspect ratio as well as "an orientation and an alignment" that provides said composite with shielding. Applicant respectfully notes that a wide combination of properties can produce shielding ability.

Lastly, Examiner Wyrozebski agreed that, upon allowance of the pending claims, she would consider adding back withdrawn claims 55-75 to this application.

Conclusion

In view of the foregoing remarks, reconsideration of the application and issuance of a Notice of Allowance is respectfully requested.

Applicant respectfully requests rejoinder of claims 55-75, as indicated on page 4 of the Office Action (Paper No. 9) mail dated August 8, 2002. These claims are all directed to electromagnetic shielding with nanotubes, and thus, are believed to have been encompassed within the original search.

If there are any issues remaining which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the number below.

Should additional fees be necessary in connection with the filing of this Responsive Amendment, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge **Deposit Account No. 03-1952 for any such fees, referencing Attorney Docket No. 54439-20001.01**; and applicant hereby petitions for any needed extension of time not otherwise accounted for with this submission.

Respectfully submitted,
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